The Investigation Team for the Waterfall Fire Burn Over

Carson City, Nevada

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Preface

The Waterfall Incident was initially dispatched at approximately 0257 July 14, 2004. The incident occurred in the hills to the West of Carson City, Nevada. The cause of the fire is being investigated by a separate investigation team and the cause of the fire is unknown at this time. The fire burned approximately 7500 acres as follows: private lands within Carson City protected by the Carson City Fire Dept (CCFD), private lands protected by the Nevada Division of Forestry (NDF) via the Sierra Forest Fire Protection District (SFFPD) and National Forest system lands under the protection of Humboldt-Toiyabe National Forest (HTF). The origin of the fire has been determined to be within Carson County on the HTF. Support to the above agencies was provided by the Sierra Front Wildland Cooperators.

Executive Summary

Prior to Initial Attack (IA) of Waterfall Fire

Carson City is located in Western Nevada at the eastern front of the Sierra Nevada Mountain Range. This area is commonly referred to as the Sierra Front. The portion of the Sierra Front that is on the western edge of Carson City is made up of steep canyons and slopes with urban developments immediately adjoining the wildland forest boundary. The road systems are a combination of paved, gravel, and unmarked single lane roads. Narrow roads on the sides of the slopes are common. Fuels on the west side of Carson City are comprised of open stands of Jeffery Pine, mountain brush, mixed grasses including cheat grass, and structures. Fuels could be described as continuous and fuel loading could be described as moderate to heavy.

Typically steep slopes and down canyon winds are key factors in fire spread and intensity in the Sierra Front. The National Fire Danger Ratings System (NFDRS) indices for the area during the time of the fire were above normal. Fire danger indices were above the 97th percentile for the area and potential for large fire growth was high.

Multi-jurisdictional fires with rapidly escalating complexity are common for the Sierra Front. The evolution of initial attack into a larger more complex extended attack organization is common under the conditions that existed on July 14, 2004. The HTF, NDF, and local fire departments have experienced several large, extended attack fires so far this season. These fires were contained with initial attack and extended attack organizations. Two fires required the activation of Type-2 Incident Management Teams (IMT).

Initial Attack through Burnover

Detection of the Waterfall Fire was at approximately 0257 on July 14, 2004 and an initial attack response was initiated by the CCFD and NDF. Upon arrival on scene, NDF and CCFD established Unified Command for the incident. At 0600 the HTF joined unified command and a Type-3 organization had been established with the IC's from NDF, HTF, and CCFD. The organization was made up of an Operations Section Chief (OSC), a Public Information Officer (PIO), Safety Officer (SOF), an Air Operations Branch Director (AOBD), an Air Tactical Group Supervisor (ATGS), three Division Group Supervisors (DIVS), a Structure Group Supervisor (DIVS), and a Staging Area Manager (STAM).

The fire was at least 20 acres, and was not yet accessible by vehicle. The mix of tactical resources included hand crews, engines, dozers, helicopters, and air tankers. A variety of homes were located within ¼ mile immediately east of the fire's location.

At approximately 0800, based on a complexity analysis, a Type-2 IMT was ordered. Primary considerations for these decisions were high potential for large fire growth and concerns for public safety within the wildland urban interface. The in-briefing for this IMT was scheduled for 1200.

Two staging areas were established. Staging Area 1 was at the Carson Middle School, with a Staging Area Manager (STAM) assigned. Staging Area 2 was established at the trailhead on Kings Canyon Road, without a STAM assigned.

Between 0900 and 1100 the fire activity continued to increase. The fire was at 50+ acres. Additional tactical resources arrived. Direct attack was still only effective with air support at this time.

At 1105, a handcrew reported two potentially serious injuries from rolling rocks. These injuries required first aid and a technical rescue, resulting in the diversion of tactical suppression resources from the structure protection group and Division B. In addition, emergency medical (EMS) personnel and equipment were dispatched from CCFD to provide technical rescue assistance. The response to these injuries increased radio traffic, drew tactical and strategic attention away from fire suppression, and increased vehicle traffic into Staging Area 2.

As the fire increased in size and complexity, uncontrolled access on the Kings Canyon Road allowed unauthorized personnel and vehicles to enter the area. Unauthorized personnel included private parties, unassigned fire and non fire personnel, members of the media and incoming Type-2 IMT members. Many of these people were without required escorts and/or Personal Protective Equipment. This situation resulted in a tremendous amount of congestion on the Kings Canyon Road and at Staging Area 2 prior to and during the burnover and entrapment.

Prior to 1200 the agency administrators, with support from the unified command, completed the Wildland Fire Situation Analysis (WFSA), Delegation of Authority, and their briefing materials for the Type- 2 IMT. In-briefing for the Type-2 IMT began at approx 1200. At this time, the unified commanders separated, one staying at the ICP, one participating in the Type-2 IMT in-briefing, and the other IC departed for the fire to begin the role of OSC2 (T) with the Type-2 IMT. Following the briefing the Type -2 IMT started the transition with the Type-3 IMT and officially assumed command of the fire at 1600 July 14, 2004.

At about 1230, the Type-3 OSC and DIVS B directed a burnout operation on the south end of the fire to keep the fire north and west of the Kings Canyon Road. As the crew and engine initiated the burnout, the main fire spotted over the road in several locations. (See appendix C Exhibit 6.) The spots grew beyond control immediately. DIVS B directed burnout operations to cease and his personnel to egress back down the road toward Staging Area 2. At this time congestion at Staging Area 2 prevented most vehicles from leaving the area, resulting in the entrapment and burnover of twenty one personnel and eighteen vehicles at approximately 1315. Two persons received first and second degree burns; one fire department employee and a news reporter. Vehicle damage included three vehicles destroyed and an unknown number of vehicles with lesser damage.

Development of Findings

Based upon site visits, interviews and a review of written and photographic documentation, the investigation team identified numerous findings in the following areas:

1. Environmental and Fire Behavior
2. Multi-Jurisdictional Incident Management
3. Communications

4. Firefighter and Public Safety
5. Transitions
6. Roles and Responsibilities
7. Operations and Tactical Decision Making
8. Entrapment
9. Management
10. Policy

Narrative:

Carson City is located in Western Nevada at the eastern front of the Sierra Nevada Mountain Range. This area is commonly referred to as the Sierra Front. The portion of the Sierra Front that is on the western edge of Carson City is made up of steep canyons and slopes with urban developments immediately adjoining the wildland forest boundary. The road systems are a combination of paved, gravel, and unmarked single lane roads. Narrow roads on the sides of the slopes are common. Fuels on the west side of Carson City are comprised of open stands of Jeffery Pine, mountain brush, mixed grasses including cheat grass, and structures. Fuels could be described as continuous and fuel loading could be described as moderate to heavy.

Recent weather within the area had been hot and dry. The Carson City area and surrounding mountains/desert has had a severe and protracted drought for the last several years. Vegetation had been stressed as a result, with current and previous year's fire behavior reflecting this drought condition. These conditions were present on the morning of July 14, 2004.

At approximately 0257 on the morning of July 14, 2004, Carson City Dispatch received a report of a brush fire in the timber above Kings Canyon. Upon notification, Carson City dispatched two brush engines, a rescue squad, and the on-duty Battalion Chief to the fire. Responding units reported active and intense fire behavior for that time of day. Initial attack units, prior to their arrival on the fire, requested additional resources were provided by NDF and other cooperating agencies within the Sierra Front.

The first unit, a Carson City Brush Engine, arrived on scene at approximately 0323. They sized up the incident at about 1 acre in heavy timber with some torching. At this time, NDF responded with initial attack units including two Brush Engines and a water tender. Notifications were made to the HTF, the City Manager of Carson City, and other cooperating agencies.

By 0430, the fire had grown to 5+ acres in size. Unified command was established with CCFD and NDF for the "Canyon Fire", which was later renamed the "Waterfall Fire". The fire was given a legal of T15N R19E Section 23. The Incident Commanders ordered additional resources including hand crews and aircraft. An Incident Command Post (ICP) was established on Longview Dr. From the ICP, staff was able to see all parts of the fire.

Access to the fire was from Kings Canyon Road. This road is paved through housing sub-divisions up to the Kings Canyon Trailhead where Staging Area 2 was established. Single-lane dirt roads and a trail continued from this location providing access to the fire. Units en route to the fire for extended attack were asked to check in at Staging Area 1 at the Carson Middle School.

At 0600 the HTF joined unified command and a Type-3 organization had been established with the IC's from NDF, HTF, and CCFD. The organization was made up of an Operations Section Chief (OSC), an HTF Public Information Officer (PIO), Safety Officer (SOF), an Air Operations Branch Director (AOBD), an Air Tactical Group Supervisor (ATGS), three Division Group Supervisors (DIVS), a Structure Group Supervisor (DIVS), and a Staging Area Manager (STAM).

By 0700 the fire had spread south and east and was approximately 30-50 acres in size. Temperatures had risen 5-10 degrees in a matter of minutes. A spot-weather forecast was requested at 0720 and was returned and broadcast to the fire line by OSC at 0745. In addition, Staging Area 2 was established at the trailhead on Kings Canyon Road. A Structure Protection Group, with DIVS, was formed and deployed in the wildland urban interface along the Kings Canyon Road.

A fire cause determination investigation was initiated involving the Nevada State Fire Marshal's Office and HTF.

At approximately 0800, based on a complexity analysis, a Type-2 IMT was ordered. Primary considerations for these decisions were high potential for large fire growth and concerns for public safety within the wildland urban interface. The in-briefing for this IMT was scheduled for 1200.

At 1105, a handcrew reported two potentially serious injuries from rolling rocks. These injuries required first aid and a technical rescue, resulting in the diversion of tactical suppression resources from the structure protection group and Division B. In addition, emergency medical (EMS) personnel and equipment were dispatched from CCFD to provide technical rescue assistance. The response to these injuries increased radio traffic, drew tactical and strategic attention away from fire suppression, and increased vehicle traffic into Staging Area.

During the morning hours the Type-3 IMT recognized the potential for fire spread to the east into the urban area. Tactical plans for Division A included constructing direct handline from the point of origin south along the west side of the fire. Division B was to construct and burnout indirect fire line above Staging Area 2 along the east side of the fire. Tactical plans in Division B were to construct indirect dozer line in Staging Area 2. The burnout operation was abandoned and hand crews were deployed to construct direct handline along the east side of the fire. In addition, indirect dozer line was constructed between the direct handline and the Kings Canyon Road above Staging Area 2.

At about 1230, the Type-3 OSC and DIVS B directed a burnout operation on the south end of the fire to keep the fire north and west of the Kings Canyon Road. As the crew and engine initiated the burnout, the main fire spotted over the road in several locations south of them. The spot fires grew immediately beyond control, spreading back toward the main fire. Additional spotting and down canyon winds spread the fire to the east. Simultaneously, the north end of the fire was blowing up with high intensity, developing a significant column resulting in in-drafting. This situation, coupled with the down canyon winds, caused the south end of the fire to spread north and east, burning through Staging Area 2.

One Brush Engine was in the process of egressing Staging Area 2 when it stopped to allow a media vehicle to turn around and depart the area. There was not enough room between the Brush Engine and an additional media vehicle parked beside it to allow other vehicles and apparatus to pass, entrapping them within Staging Area 2. Twenty one personnel and eighteen vehicles were unable to egress out of the staging area. While this was occurring the fire front reached the Staging Area, igniting a pine tree adjacent to the Brush Engine. When the tree caught fire, it caused the Engine to ignite and burn in place. The Engine operator had to abandon the vehicle due to the extreme heat. Even through Personal Protective Equipment was used properly the

operator sustained first and second degree burns. An NDF Brush Engine with a front bumper mounted, remote controlled, water monitor applied water to other vehicles during the burnover. This "water curtain" helped limit the damage to vehicles and enhanced firefighter safety.

One media reporter abandoned their vehicle and walked out of the canyon, sustaining radiant heat burns to the face and hands. The personnel entrapped in Staging Area 2 sought sheltered from the heat and flames in their vehicles. One fire shelter was deployed within a vehicle due to the radiant heat. The burnover and entrapment occurred at approximately 1315.

The entrapment and burnover resulted in three agency vehicles, a CLCFPD Brush Engine, a CCFD Heavy Rescue Truck, and an HTF six passenger pickup being destroyed by the fire. Several additional vehicles received minor to moderate heat related damage.

Findings

Environmental & Fire Behavior

1. As a result of prolonged drought, fuel moistures were very low. Energy Release Components were above the 97% level. The potential of large fire growth was high with a predicted Haines Index of 5.

2. The fire was approximately 5 acres in size, near the waterfall in North Kings Canyon, and burning actively in the thermal belt mid-slope above the Kings Canyon Road.

3. The SOF3 took weather observations at the top of the fire and requested a spot weather forecast at 0720. The forecast was received from the NWS at 0730, and relayed to personnel on the fire via radio by the OSC at 0745.

4. Fire activity (intensity, spotting, and rates of spread) increased dramatically starting about 1200.

5. The blow-up on the north end of the fire and subsequent in-drafting contributed to the south end of the fire spread northeast and the burnover at Staging Area 2

Multi-Jurisdictional Incident Management

6. NDF was assumed to be the jurisdictional agency at the time of report and initial report.

7. Unified Command was established at initial attack (at approximately 0330) with an Incident Commander from both NDF and CCFD. They established an ICP at a park on Longview Drive approximately two miles east of the fire. The fire was in full view from the ICP.

8. The ICs discussed incident objectives, planned strategy and tactics, and issues of concern with their respective Agency Administrators, who concurred with the objectives and plan for managing the fire.

9. Command and Operations personnel recognized a high potential for significant downhill fire spread. Trigger points for initiating the disengagement and egress from the area were not identified, nor communicated, and responsibilities were not assigned.

10. Staging Area 1 was established at the Carson Middle School on King Street to receive incoming resources, with a staging area manager assigned.

11. The incident commanders conducted a complexity analysis at 0800, which supported their order for a Type 2 IMT for the Waterfall fire.

Communications

12. A communications plan was developed with the assignment of five radio frequencies including command, two tactical frequencies, air to ground, and air to air.

13. Poor radio discipline and/or not using assigned radio frequencies resulted in tremendous radio traffic on both command and tactical frequencies. Due to radio traffic congestion many overhead personnel reverting to home unit (unassigned) frequencies and cell phones for many of their communications. As a result, critical conversations were not available for all personnel who had a "need to know", creating more confusion regarding fire status and firefighting actions.

Firefighter and Public Safety

14. All assigned resources received a briefing prior to assignment. The quality of the briefings varied widely from full coverage of the elements in the Incident Response Pocket Guide to no information other than the tactical assignment and radio frequencies.

15. Lookouts were posted at the single resource, strike team/task force, and division/group levels. In addition, the Operations Section Chief (OSC) provided lookout coverage at the ICP and via the assigned ATGS. The SOF3 served as a lookout at the top of the fire for most of the morning.

16. All resources interviewed had identified escape routes and safety zones.

17. Numerous assigned and un-assigned overhead personnel were in the fire area without wearing their personnel protective equipment.

18. Uncontrolled access into Staging Area 2 resulted in numerous private parties, unassigned fire and non-fire management personnel, members of the media, incoming Type 2 IMT members, and all of their associated vehicles entering the fire area via the Kings Canyon Rd. Many of these people were in supervisory or command positions within their respective fire protection agencies but were not assigned to the Waterfall fire. Many of these intrusions into the area were without the approval of the ICs, without required personal protective equipment, and in some cases without required escorts. Many of these individuals and their vehicles were present in the area of Staging Area 2 during the blowup on the south end of the fire and the subsequent entrapment at Staging Area 2. This situation compromised the safety of tactical firefighting personnel and their ability to escape the entrapment at Staging Area 2.

19. Numerous command and operations overhead personnel and visiting agency fire command personnel observed the heavy congestion at Staging Area 2 and on Kings Canyon Rd. and recognized the potential problems. None of them affected any effective actions to resolve this hazardous situation.

20. Check-in procedures did not provide a complete accounting of all the personnel assigned to fireline duties and/or allowed into the fire area. Personnel accounting existed within the structure protection group and within the strike teams/task forces and individual resources, but was incomplete above these levels of the fire organization.

21. The SOF3 temporarily pulled two hand crews off Division A due to increasing fire behavior, unanchored line, and a spot fire downhill from their location.

22. Evacuations of homes and private parties in danger were accomplished using established procedures and appropriate law enforcement personnel.

23. At 1105 two firefighters on the Slide Mt. hand crew received potentially serious injuries from falling rocks on Division B near Staging Area 2. The medical and rescue response involved reassigning paramedics and firefighters from an engine task force and the structure protection group, an assistant DIVS, and the ordering of a heavy rescue squad and advanced life support units from CCFD. The base of operations for this rescue was Staging Area 2. This rescue operation lasted for several hours. One victim was extracted immediately prior to the burnover at Staging Area 2. The other victim was moved into the black above Staging Area 2 before the burnover and was extracted about 1500.

24. The medical rescue operation significantly contributed to the complexity of incident management for the Type 3 organization and to the vehicle congestion at Staging Area 2.

25. Helicopter bucket operations were diverted to cooling the fire perimeter near the rescue operations resulting in limited aerial support for other areas on the fire.

26. Trigger points for disengagement and egress were not identified or commonly understood, no contingency plan was in place when expected events happened.

Transitions

27. At approximately 0600 the command and general staff structure changed with the arrival of a replacement IC from NDF and an additional IC from the HTF. The change resulted in three ICs working in Unified Command representing NDF, HTF, and CCFD. A lead IC role was not clearly assigned or understood. Also at this time, the ICs filled the following positions: Safety Officer, Information Officer, Operations Section Chief, Division A Supervisor, Division B Supervisor, Division Z Supervisor, Structure Protection Group Supervisor, and Air Operations Branch Director.

28. At approximately 1200, one of the unified ICs and agency representatives and/or administrators provided an initial briefing to the incoming Type 2 IMT at Staging Area 1. One Unified IC was not aware of this briefing. The other Unified IC departed for the fireline as OSC (T) on the Type 2 IMT assuming their Type 2 IMT was taking over management of the fire at 1200.

29. Transition to the Type 2 IMT occurred at 1600 July 14, 2004. The decision to transition to the Type 2 IMT at 1600 was not positively communicated to the Type III ICs. This lead to erroneous assumptions on their part. This led to at least one IC disengaging as a commander.

Roles and Responsibilities

30. There were numerous changes in personnel filling positions in the incident management organization at the command, general staff, and division supervisor levels. Many of these changes were not announced to superiors or subordinates. The changes were not relayed effectively to the management at Staging Area 1 for use in briefing incoming firefighting resources. As a result, some confusion existed about the names of the ICs and who was in charge at the OSC and DIVS levels.

31. Responsibility for the management of Staging Area 2 and traffic on the Kings Canyon Rd. was not fully understood or accepted by the DIVS.

32. Some unassigned "free-lancing" fire management supervisors entered the fire and started giving tactical direction and assignments to resources without the knowledge or approval of operations overhead. These actions created confusion among firefighters about who was in charge. These actions may have contributed to untimely delays for disengagement.

Operations and Tactical Decision Making

33. An Air Tactical Group Supervisor arrived over the fire at 0619 and immediately ordered airtanker and helicopter resources. The first Single Engine Airtanker (SEAT) was en route to the fire at 0656.

34. Crews constructing direct handline with aerial support could not get anchor points established on the north end of the fire at the Division A/B break.

35. Staging Area 2 was established at the Kings Canyon Trailhead at the end of the pavement on the Kings Canyon Road, which is locally known as Staging Area 2. This area was used as a reporting location for resources with tactical assignments in Division B and the Structure Protection Group. It was also used as a staging area for the fire investigation team and medical rescue operations. A staging area manager was not assigned.

36. The ICs and OSC recognized the potential for heavy congestion of people and vehicles at Staging Area 2 and agreed to limit access to only resources that had a tactical assignment. Their actions to implement this decision were ineffective. There was no positive traffic control established on the Kings Canyon Rd. leading into Staging Area 2.

37. Direct attack with hand crews was ineffective without aerial support, primarily from helicopters with water buckets.

Entrapment

38. Personnel at Staging Area 2 were not advised about the buildup of fire activity south of their location nor the fire front spreading toward them.

39. Due to some improperly parked vehicles at Staging Area 2 (pointed opposite of egress route), vehicles without operators present, and congested two way vehicle traffic on the

Kings Canyon Rd. below Staging Area 2, twenty one firefighters and eighteen vehicles were not able to evacuate the area and were burned over by the fast spreading fire front at approximately 1315.

40. This burnover incident matches the National Wildfire Coordinating Group's definition of an "entrapment".

41. The operator of a Central Lyon Co. engine stopped his egress at the exit of Staging Area 2 to allow a news media vehicle heading up the road to turn around and exit the area. While waiting, a pine tree adjacent to the road crowned out and ignited the front of his engine and disabled it. This engine operator received burns and abandoned his vehicle. This event blocked any additional vehicles egress from Staging Area 2.

42. Most personnel entrapped stayed inside vehicles at Staging Area 2 while the fire burned through the area. One entrapped engine with a front bumper mounted, remote controlled water nozzle/monitor was able to apply water to other vehicles during the burnover which helped limit damage to vehicles and enhanced firefighter safety.

43. One fighter deployed a fire shelter inside their vehicle to assist with reflecting radiant heat. No other shelter deployments occurred at Staging 2.

44. Two people received first and second degree burns during the burnover. A television reporter received radiant heat burns as he walked down Kings Canyon Rd. below Staging Area 2. An engine operator also received first and second degree burns when radiant heat entered the cab of the engine through an open passenger side window, forcing him to exit the vehicle and flee to safety in another vehicle.

45. Following the passing of the fire front, personnel emerged from their vehicles and engines and started extinguishing fires on entrapped engines and support vehicles.

46. Three vehicles (CCFD Heavy Rescue Squad, Central Lyon County Brush Engine, and a FS pickup) were totally destroyed. Four other vehicles received moderated heat related damage at Staging Area 2. Numerous other vehicles departing the area as the burnover occurred sustained minor to moderate heat related damage.

47. Neither Unified ICs nor Agency Administrators were advised of the burnover and entrapment in a timely manner.

48. Upon notification of the burnover and entrapment, the OSC initiated an order for a Type 1 IMT following consolation with and approval of the FS Agency Administrator.

Management

49. ICs, Agency Administrators, and fire managers lacked a common understanding of transitions from Type 3 to Type 2 IMTs regarding the differences and normal timelines

between in-briefing, transition, and official takeover. The lack of understanding lead to assumptions and misunderstandings that the Type 2 IMT was taking over the fire at 1200.

50. All organizational levels did not have a common understanding of how Unified Command functions nor the roles and responsibilities of each IC on Type 3 incidents like the Waterfall Fire.

51. The local agencies lack a single common interagency operating plan for managing Type 3 fires burning on multiple jurisdictions.

52. Assigned Type 3 Incident Information Officer did not understand Nevada State Law regarding media access to the fireline.

53. Areas around the fire were not closed to public entry prior to the entrapment.

Policy

54. During the time period of initial and extended attack through the burnover at Staging Area 2, most fire suppression policies and procedures of the responsible agencies were followed. However, in some cases either action or inaction by firefighters resulted in policy and/or procedural non-compliance. The following table provides a summary of these areas of non-compliance.

Policy/Procedure	**NDF**	**CCFD**	**FS**	**Remarks**
All activities shall reflect a commitment to firefighter and public safety as a first priority. NDF FPM pg. 22, CCFD SOP O4, FSM 5135	X	X	X	Access on Kings Canyon Rd. was not controlled or managed. Safety was not the first priority at Staging Area 2. Incomplete accounting of assigned personnel.
Identity of IC will be known at all times by Dispatch and all subordinates. NDF FPM pg. 36, CCFD SOP C1, NIMG	X	X	X	Several resources assigned didn't know who the ICs were and/or there was Unified Command established.
Ensure compliance with established safe firefighting practices… NDF FPM pg. 51, CCFD SOPs, FSM 5130.04	X	X	X	Firefighters and Overhead recognized safety hazards and risks with congestion on the Kings Canyon Rd. yet took no effective action to mitigate issues.
Use of Personal Protective Equipment NDF FPM pg. 57, CCFD SOP S4, ISFFAO Ch.6	X	X	X	Assigned and unassigned personnel were at Staging Area 2 without full PPE during the burnover.
Incident briefings occur throughout the fire organization and cover the elements	X	X	X	Assigned firefighting resources did not receive a briefing covering

in the Incident Response Pocket Guide. NDF FPM pg. 59 & 131, CCFD SOP C1, FSM 5130.45				the items in the IRPG.
Visitors to the fireline must be authorized by the IC, have full PPE, and be escorted if not red carded. NDF FPM pg. 68, ISFFAO Ch. 6	X	n/a	X	Unassigned agency fire and administrative personnel, media personnel, and civilians were allowed on Kings Canyon Rd. and at Staging Area 2 without approval, PPE, and/or escorts.
Dispatcher will, during initial dispatch, assign one each of the following frequencies: Command, Tactical, Air to Ground, Air to Air. NDF/HTF AOP pg.12, CCFD SOP C1	X	X	X	All four frequencies were assigned but not by agreed upon procedures.
Ensure that all firefighting actions are in full compliance with the Ten Standard Fire Orders and mitigation of the applicable Eighteen Watch Out Situations. NDF FPM, FSM 5135.45	X	n/a	X	****Fire Order #7 and Watch Out #7.** Communications were not maintained with supervisors and adjoining forces. **Fire Order #9.** Control of subordinates to ensure performance of critical duties was inadequate. **Fire Order #8.** Briefings and instructions were inadequate. **Watch Out #8.** Unanchored fireline was being constructed. **Fire Order #10.** Safety considerations were not the first priority at Staging Area 2.
Levels of engagement shall be determined by and based upon iterative risk assessment and management (IRPG). NDF FPM Pg. 132, FSM 5135.4	X	n/a	X	No evidence of the risk assessment and management process being formally used.

NDF FPM	Nevada Division of Forestry Fire Protection Manual
CCFD SOP	Carson City Fire Department Standard Operating Procedure
FSM	Forest Service Manual
ISFFAO	Interagency Standards for Fire and Fire Aviation Operations
NDF/HTF AOP	Nevada Division of Forestry & Humboldt-Toiyabe NF Annual Operating Plan
NIMG	National Interagency Mobilization Guide

X = Agency has established policy and/or applicable procedures
n/a = Agency has no established policy/procedure

** **Fire Orders and Watch Outs that were violated or not mitigated.**

Fire Orders: #7 Maintain prompt communications with your forces, your supervisor, and adjoining forces.
#8 Give clear instructions and insure they are understood.
#9 Maintain control of your forces at all times.
#10 Fight fire aggressively, having provided for safety first.

Watch Outs: #7 No communication link with crewmembers or supervisor.
#8 Constructing line without safe anchor point.